

# Quick Card

# T-BERD<sup>®</sup>/MTS-5800 Network Tester Ethernet Layer 3 Multicast Traffic Generation

This document outlines how to use the T-BERD 5800 to generate IPv4 Multicast Traffic. A second T-BERD/MTS 5800 or compatible device should be used at the far-end of the line under test to analyze the multicast traffic and measure key performance indicators (KPIs). Multicast traffic analysis and IGMP group membership registration is covered in a separate Quick Card.

#### **Equipment Requirements:**

• T-BERD/MTS-5800 equipped with the following:

 BERT software release V27.2 or greater
 C510M1GE Gigabit Ethernet test option
 SFP, QSFP, or CFP4 optical transceiver to match the line under test

- Patch Cables to match the T-BERD/MTS optics and the line under test
- Fiber optic inspection microscope (VIAVI P5000i or FiberChek Probe)
- Fiber Optic Cleaning supplies



Figure 1: Equipment Requirements

## The following information is required to complete the test:

- Physical Interface (10/100/1000BASE-T, 1000BASE-LX, 10GBASE-LR, 100GBASE-LR4, etc.)
- Auto Negotiation settings of the port under test
- VLAN ID, if VLAN tagging is used
- IP Address Parameters (DHCP or Static, Source IP, Default Gateway, Subnet Mask)
- Destination Multicast Group IP Address for test traffic.
- Packet size and Transmit rate for test traffic.

## Fiber Inspection Guidelines:

- All fiber end-faces must be clean and pass an inspection test prior to connection.
- Use the VIAVI P5000i, FiberChek Probe, or Sidewinder microscope to inspect both sides of every connection being used (SFP Port, bulkhead connectors, patch cords, etc.)



Figure 2: Inspect Before You Connect



#### Connect to Fiber Under Test (FUT):

- For copper 10/100/1000BASE-T interface testing with the T-BERD/MTS 5800v2, connect the Port 1 10/100/1000 RJ-45 jack to the port under test using CAT 5E or better cable.
- For copper 10/100/1000BASE-T interface testing with the T-BERD/MTS 5800-100G, insert a copper SFP into the Port 1 SFP+/SFP28 slot and connect to the port under test using CAT 5E or better cable.
- 3. For optical interfaces:
  - Insert SFP compatible with your physical interface into the Port 1 slot on the top of T-BERD.
  - Inspect and, if necessary, clean all fibers and bulkheads, as described on page 1.
  - Connect the SFP to the port under test using a Single Mode or Multimode jumper cable compatible with the interface under test.



10/100/1000BASE-T SFP+ Port R45 Jack Figure 3: T-BERD 5800v2 Dual Port mainframe



Port 1 SFP+/SFP28 Port Figure 4: T-BERD 5800-100G mainframe

#### Launch and Configure Test:

- 1. Press the Power button to turn on the test set and view the startup screen.
- Using the Select Test menu, Quick Launch menu, or Job Manager, launch an Ethernet, Layer 3 Traffic, IPv4, Terminate test on port 1 for the desire physical interface. For example: Ethernet ▶ 10/100/1000 ▶ Layer 3 Traffic ▶ IPv4 ▶ P1 Terminate.

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Figure 5: Startup Screen



- 3. If the test is not in the default settings, tap the Tools icon and select Reset Test to Defaults
  Tap A wait for test to reconfigure.
- 4. Tap the **Setup** Soft Key to display the **Interface** settings tab.
- If you are testing a 10/100/1000 Electrical or 1GigE Optical tests with auto negotiation disabled, select the Physical Layer tab and configure settings to match the Ethernet port under test.
- 6. If the network under test uses VLAN tagging, select the **Ethernet** settings tab, set **Encapsulation** to **VLAN**, tap **[VLAN]** and enter your **VLAN ID**.
- 7. Select the IP settings tab.
- 8. Select the desired packet size in the Packet Length (bytes) setting.
- 9. Select the Source/Destination Addresses field.
  - a. Enter the Source IP, Default Gateway and Subnet Mask values.
  - b. Set **Destination IP** to the desired Multicast Group IP address to transmit traffic to; for example, 224.0.0.120.

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Reset Test to Defaults									

Figure 6: IP Settings

- 10. Select the **Traffic** settings tab. Set **Load Unit** to **Bit Rate** and set **Load** to the desired traffic rate for the Multicast traffic.
- 11. Tap the **Results** Soft Key, **E** to view the Results screen.
- 12. If using the optical test port on T-BERD/MTS press the **Laser Off** button at the bottom of the screen to turn on the port laser. The button will turn yellow and be relabeled **Laser On**.
- 13. Sync Acquired and Link Active LEDs are green. A green Signal Present LED indicates the T-BERD/MTS is receiving an optical signal from the port under test. Green Sync Acquired and Link Active LEDs indicate that the T-BERD/MTS has successfully connected to the port under test and the link is active.



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Start Traffic in the Action tab at the bottom of the screen to start transmitting Multicast traffic. 14. Tap Traffic Started

The button will turn yellow and be relabeled

- , on the right side of the screen. 15. Tap the **Restart** Soft Key
- 16. You can observe the Multicast traffic transmit rate in the Summary -> SLA/KPI results view.

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Figure 8: Summary Results

Contact Us +1 844 GO VIAVI (+1 844 468 4284)

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